Sound Waves

Reference: "Oil and Natural Gas" book pg. 28

Materials

- 1 metal slinky spring
- 1 large styrofoam cup
- 1 small styrofoam cup

Procedure

Longitudinal Waves

1. Place the slinky on the floor so the coils are all together facing up. Place the large styrofoam cup inside of the slinky coils and press in gently.
2. Lift the cup straight up. The end coils should come up around the center of the cup.
3. Place your hand around the few coils in the cup's middle to hold the slinky in place at the cup's middle.
4. Bounce your hand up and down to create longitudinal waves and observe the sound vibrations echoing from the cup.
5. Repeat your hand motions at different heights--low and high to hear the different sound vibrations and see the longitudinal waves produced.
6. Remove the large cup and repeat the investigation with the small cup.
7. Compare / contrast the results of the sound waves produced in the large and small cups.

Conclusions

1. What was the difference in the two sounds you heard from the two different cups?

2. Was there a difference in longitudinal waves produced from the trials? Describe.

3. Explain how seismic technology uses sound to locate specific geologic formations underground.